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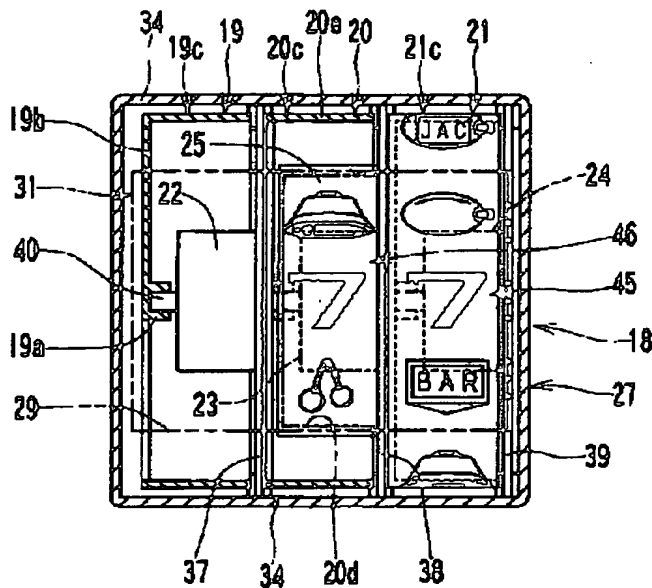
Summary

(57) [Abstract]

[Technical problem] On the basis of mechanical composition, while, the uniform change display of a pattern can be prevented and the game machine whose production nature of a change display of a pattern improves is offered.

[Means for Solution] The time fuselages [the pattern viewing area 31] 19, 20, and 21 which display [change and / halt] the 1st pattern of two or more coma that two or more kinds of 1st pattern required for a game is expressed [and], It is arranged the driving means 22, 23, and 24 which drive the time fuselages 19, 20, and 21, and inside the time fuselages 19, 20, and 21, and it is made to correspond to the pattern viewing area 31, and has the display means 25 which can change display the 2nd pattern for two or more coma.

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CLAIMS

[Claim(s)]

[Claim 1] The game machine characterized by providing the following. The time fuselage [a pattern viewing area (31)] (19) which displays [change and / halt] the 1st pattern (43) of the above of two or more coma, (44), and (45) that two or more kinds of 1st pattern (43) required for a game, (44), and (45) are expressed [and], (20) (21) The driving means (22) which drive this time fuselage (19), (20), and (21), (23) (24) It is arranged inside the aforementioned time fuselage (19), (20), and (21), and it is made to correspond to the aforementioned pattern viewing area (31), and is the display means (25) which can change display the 2nd pattern for two or more coma (46).

[Claim 2] The game machine according to claim 1 characterized by having a profits

state generating means (55) to make a game person generate a profits state with the combination of the 1st pattern (43) of the above, (44), (45), and/or 2nd pattern (46).

[Claim 3] The game machine according to claim 1 or 2 characterized by having the 2nd pattern control means (64) which fluctuate the 2nd pattern (46) of the above, and a predetermined pattern is chosen [control means] from two or more kinds of 2nd patterns (46) of the above, and indicate by halt.

[Claim 4] A part of 2nd pattern [at least] (46) of the above is a game machine given in any of the claims 1-3 characterized by being value equivalent to the 1st pattern (43) of the above, (44), and (45) they are.

[Claim 5] A game machine given in any of claims 1-4 which are characterized by providing or including the following they are The aforementioned time fuselage (20) by which the aforementioned display means (25) has been arranged inside, and (21) are the check-by-looking section (20d) (21d) which can check the aforementioned display means (25) side by looking. The 1st pattern control means which rotate the aforementioned time fuselage (20) and (21), and fluctuate the 1st pattern (44) of the above, and (45) so that the aforementioned check-by-looking section (20d) (21d) may stop after rotation corresponding to the aforementioned display means (25) (63)

[Claim 6] The aforementioned time fuselage (20) by which the aforementioned display means (25) has been arranged inside, and (21) A hoop direction is equipped with the check-by-looking section (20d) (21d) and the covered section (20e) which cannot be checked by looking (21e) which can check the aforementioned display means (25) side by looking. So that the aforementioned check-by-looking section (20d) (21d) and the aforementioned covered section (20e) (21e) may stop alternatively after rotation corresponding to the aforementioned display means (25) A game machine given in any of the claims 1-4 characterized by having the 1st pattern control means (63) which rotate the aforementioned time fuselage (20) and (21), and fluctuate the 1st pattern (44) of the above, and (45) they are.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to game machines, such as a pachinko machine, an arrangement ball machine, a mahjong ball game machine, and a **** type game machine.

[0002]

[Description of the Prior Art] There is a thing equipped with the change pattern display which can change display two or more game patterns in pinball machines, such as a pachinko machine, and a slot machine. The change pattern display used for this kind of game machine has the common thing of mechanical composition of having made the rotating drum as which two or more kinds of patterns were displayed on the periphery side by the hoop direction correspond to a pattern viewing area, and having arranged more than one to the longitudinal direction conventionally.

[0003] When there is a change demand from a change demand means by detection of a game sphere, or operation of a game person, this Automatically [when each rotating drum rotates, the pattern is indicated by change at a pattern viewing area and predetermined-time progress is carried out from a change start] by or halt operation of a game person When each rotating drum stops in predetermined sequence and the pattern corresponding to the pattern viewing area of each of that rotating drum becomes a specific mode (specification should put together), game media, such as predetermined coin, are paid out to a game person, or a profits state advantageous to a game person is generated.

[0004]

[Problem(s) to be Solved by the Invention] In order that the conventional change pattern display may display two or more kinds of patterns on the periphery of a rotating drum fixed and may only fluctuate the pattern corresponding to a pattern viewing area by rotation of a rotating drum, on the other hand, the hand of cut of a rotating drum tends to become a uniform change display by Mukai, its stage effects by the change display of a pattern are low, and it has the fault in which the interest over a game person's game is reduced.

[0005] In view of such a conventional trouble, on the basis of mechanical composition, this invention can prevent the uniform change display of a pattern, while, and it aims at offering the game machine whose production nature of a change display of a pattern improves.

[0006]

[Means for Solving the Problem] The time fuselages [the pattern viewing area 31] 19, 20, and 21 which display [change and / halt] the 1st pattern 43, 44, and 45 of the above of two or more coma that two or more kinds of 1st pattern 43, 44, and 45 which needs this invention for a game is expressed [and], It is arranged the driving

means 22, 23, and 24 which drive these time fuselages 19, 20, and 21, and inside the aforementioned time fuselages 19, 20, and 21, and it is made to correspond to the aforementioned pattern viewing area 31, and has the display means 25 which can change display the 2nd pattern 46 for two or more coma.

[0007]

[Embodiments of the Invention] Hereafter, the operation gestalt of this invention is explained in full detail based on a drawing. Drawing 1 - drawing 7 illustrate the 1st operation gestalt of this invention. It sets to drawing 1 and is 1. Front frame 2 which is a main part of a game machine and was pivoted free [opening and closing] It has. front frame 2 **** -- the game board 3 it equips free [attachment and detachment] from a background -- having -- this game board 3 an anterior -- glass door 4 Front board 5 It is arranged free [opening and closing]. front board 5 **** -- upper pan 6 which stores the game sphere for discharge It is equipped. Front frame 2 Lower pan 7 which stores a surplus sphere in the lower part Discharge means 8 Discharge handle 9 It is prepared, respectively.

[0008] the game board 3 **** -- while being annularly equipped with a guide rail 10 -- the game field 11 inside the guide rail 10 -- the 1st change pattern display means 12, the 2nd change pattern display means 13, the 1st change demand means 14, the 2nd change demand means 15, and the adjustable winning-a-prize means 16 -- the game parts of winning-a-prize means 17 grade are usually arranged

[0009] The 1st change pattern display means 12 is constituted, as it is for fluctuating the 1st below-mentioned pattern and the 2nd pattern by random number control, and indicating by halt after change of a predetermined time and is shown in drawing 2 - drawing 5 by change demand when the 1st change demand means 14 detects a game sphere. Namely, the rotating drums [two or more (for example, three pieces)] 19, 20, and 21 by which this 1st change pattern display means 12 has been arranged in the display case 18 at the longitudinal direction, It has the drive motors (driving means) 22, 23, and 24 which drive separately each of these rotating drums 19, 20, and 21, and the liquid crystal display means 25 arranged in the central rotating drum 20 one or more, and a change display of three patterns is [two or more] possible to a longitudinal direction at least.

[0010] the display case 18 -- the game board 3 the front trim case 26 with which the front-face side was equipped free [attachment and detachment], and the shape of a rectangle and the other receipt cases 27 with which the background of the front trim case 26 was equipped free [attachment and detachment] -- having -- the receipt case 27 -- the game board 3 installation -- it fitted into the hole 28 and has projected back It has the hood 30 which the front trim case 26 is formed in this pattern display window [which was prepared in the transverse-plane side in the shape of opening] 29, and pattern display window 29 bottom, and projects ahead, and the 2nd change pattern display means 13 is established in the center of abbreviation of the longitudinal direction of the hood 30.

[0011] The pattern display window 29 is a size which has the right-and-left width of

face which can display the 1st pattern of rotating drums 19, 20, and 21, and the vertical width of face which can display the 1st pattern of three coma in one coma or two or more coma, for example, the vertical direction, when rotating drums 19, 20, and 21 are idle states, and is constituted by the shape of a rectangle, and other proper configurations, and the interior of this pattern display window 29 serves as the pattern viewing area 31. The pattern display window 29 is blockaded by the covering 32 arranged at the anterior of rotating drums 19, 20, and 21.

[0012] Covering 32 incurvates rotating-drums 19 and 20 and 21 side circularly along with the periphery of rotating drums 19, 20, and 21 by synthetic-resin material possible a check by looking and transparent etc. from before, and is constituted, and the display case 18 is equipped with it free [attachment and detachment]. Covering 32 equips vertical ends with the engagement presser foot stitch tongue 33, and is engaging with the engagement section 35 by which the engagement presser foot stitch tongue 33 was formed in the wall 34 of the vertical both sides of the receipt case 27 free [engaging and releasing]. In addition, three winning-a-prize lines 36 of a longitudinal direction and the two directions of slant are shown into the portion corresponding to the pattern viewing area 31 by covering 32. However, this winning-a-prize line 36 is not necessarily required.

[0013] Rotating drums 19, 20, and 21 make a longitudinal direction approach at intervals of predetermined in the receipt case 27, are arranged, and are supported free [rotation] by the support plates 37, 38, and 39 fixed free [attachment and detachment] in the receipt case 27 at the circumference of the horizontal-axis heart. Support plates 37, 38, and 39 are in the right-and-left unilateral of each rotating drums 19, 20, and 21, and the side corresponding to the rotating drums 19, 20, and 21 of each of those support plates 37, 38, and 39 is equipped with drive motors 22, 23, and 24 free [attachment and detachment].

[0014] while each drive motors 22, 23, and 24 fit in in rotating drums 19 and 20 and 21 and being fixed to support plates 37, 38, and 39 — support plates 37, 38, and 39 and an opposite side — driving shafts 40, 41, and 42 — having — the driving shafts 40, 41, and 42 — the hub by the side of rotating drums 19 and 20 and 21 — Sections 19a, 20a, and 21a It is fixed free [attachment and detachment]. a hub — Sections 19a, 20a, and 21a The fork sections 19b, 20b, and 21b prepared in rotating drums 19, 20, and 21 by support plates 37, 38, and 39 and the opposite side It is fixed. Therefore, each rotating drums 19, 20, and 21 are supported by the driving shafts 40, 41, and 42 of drive motors 22, 23, and 24 free [rotation].

[0015] Drum sections 19c, 20c, and 21c of rotating drums 19, 20, and 21 The whole is constituted by the synthetic-resin material which cannot check the interior by looking. However, as shown in the rotating drum 20 of the center where the liquid crystal display means 25 has been arranged inside at drawing 7 (A), it is drum section 20c. It is 20d of check-by-looking sections for two or more coma to a hoop direction possible [correspondence for th liquid crystal display means 25] to a part. One or more are prepared. 20d of check-by-looking sections When a rotating

drum 20 stops corresponding to the pattern viewing area 31, it has a size which can check the 2nd pattern of two or more coma by the side of the liquid crystal display means 25 by looking. Therefore, drum section 20c of a rotating drum 20 20d of check-by-looking sections which can check the internal liquid crystal display means 25 side by looking Covered section 20e which cannot be checked by looking It prepares for the hoop direction.

[0016] 20d of in addition, check-by-looking sections Drum section 20c of a rotating drum 20 Although constituted by the formed notching section or opening, the convex lens the transparent board which can check the liquid crystal display means 25 side by looking, and for expansion etc. may also close. 20d of moreover, check-by-looking sections Also in the size corresponding to the number of coma of one coma of the 2nd pattern, two coma, or three coma or more, it is good, and a predetermined interval may be set to the hoop direction of a rotating drum 20, and may be prepared in it. [two or more] 20d of in this case, two or more check-by-looking sections Inside, its part, or 20d of all check-by-looking sections You may change the size of a hoop direction so that the numbers of coma which can check the 2nd pattern by looking may differ.

[0017] Drum sections 19c, 20c, and 21c of each rotating drums 19, 20, and 21 As shown in drawing 7 (A), two or more kinds of 1st pattern 43, 44, and 45 required for a game sets abbreviation regular intervals to a hoop direction, and is prepared in the peripheral face at it. The 1st pattern 43, 44, and 45 has an interval corresponding to the pattern viewing area 31 in a part for two or more coma which adjoins the hoop direction, for example, three coma, when rotating drums 19, 20, and 21 stop. The 1st pattern 44 by the side of a rotating drum 20 is 20d of the check-by-looking section. It is arranged at abbreviation regular intervals at criteria.

[0018] In addition, the 1st pattern 43, 44, and 45 is shown for the 1st pattern 43, 44, and 45 by the peripheral face of rotating drums 19, 20, and 21 by two or more coma at the hoop direction by making into the 1st pattern group a bell, BAR and JAK7, a plum, a cherry, and other two or more coma that the pattern is used suitably and combined suitably the of-the-same-kind pattern and the different-species pattern.

[0019] The liquid crystal display means 25 is display screen 25a of an anterior. While being constituted in the shape of flatness, it is made to correspond to the vertical width of face of the pattern viewing area 31, and they are rotating drums 20 and 21. It is positively arranged near the inner circumference and the support plate 38 is suitably equipped free [attachment and detachment] through the installation means. After indicating by change by the predetermined change pattern along a different direction, the liquid crystal display means 25 chooses alternatively the same as that of the hand of cut of rotating drums 19, 20, and 21, or its 2nd adjacent pattern 46 for three coma, and indicates two or more kinds of 2nd pattern 46 possible [two or more kinds of 2nd pattern 46 required for a game / change] and displayed one by one in predetermined sequence by halt. In addition, the liquid crystal display means 25 is 20d of check-by-looking sections of each rotating drum 20 at the time of a idle

state. It is the size which is made to correspond and can display the 2nd pattern 46 for a maximum of 3 coma in the vertical direction.

[0020] Two or more kinds of 2nd pattern 46 displayed on the liquid crystal display means 25 As at least a part is as of the same kind as rotating drums 19 and 20 and the 1st pattern 43, 44, and 45 by the side of 21 and it is shown in drawing 7 (B) A part for two or more coma of a bell, BAR and JAK7, a plum, a cherry, and others which the pattern is used suitably and combined suitably the of-the-same-kind pattern and the different-species pattern is made into the 2nd pattern group like the 1st pattern 43, 44, and 45.

[0021] moreover, other rotating drums 19 and 21 to which the 2nd pattern 46 by which it is indicated by halt stops the 2nd pattern 46 for the liquid crystal display means 25 corresponding to the winning-a-prize line 36 top The 1st near pattern 43 and 45 making into a specific mode the case where it becomes an of-the-same-kind pattern etc. -- at least -- a part (the all or in part) -- it has value equivalent to the 1st pattern 43, 44, and 45 of each rotating drums 19, 20, and 21

[0022] By change demand when a change display of one pattern is possible and the 2nd change demand means 15 detects a game sphere one or more, the 2nd change pattern display means 13 fluctuates the pattern by random number control, and is stopped after change of a predetermined time. In addition, ten kinds of number patterns to 0-9 are used for the pattern of the 2nd change pattern display means 13.

[0023] The electric tulip equipped with the opening-and-closing presser foot stitch tongue 47 of the right-and-left couple which conversion in the 1st disadvantageous state (closed state) for a game person and the 2nd advantageous state (open state) can be possible for the 1st change demand means 14, and can be opened and closed freely etc. is used. In addition, when the pattern after change of the 2nd change pattern display means 13 is the predetermined mode defined beforehand, the opening-and-closing presser foot stitch tongue 47 carries out predetermined-time opening of the 1st change demand means 14. The 2nd change demand means 15 is constituted by the passage gate etc.

[0024] Conversion in the 1st disadvantageous state (closed state) for a game person and the 2nd advantageous state (open state) is possible for the adjustable winning-a-prize means 16. The halt pattern corresponding to [have the opening-and-closing board 48 supported pivotably free / opening and closing / by the horizontal axis by the side of the lower part, and] each winning-a-prize line 36 to after change of the 1st change pattern display means 12 is a specific mode (for example, as shown in "7, 7, and 7"). When the specific pattern defined beforehand or a specific pattern becomes should put together, the opening-and-closing board 48 opens wide to an anterior, and shifts to a game state advantageous to a game person.

[0025] The specific field 49 is established in the interior at the adjustable winning-a-prize means 16, and a game state is made to continue specially when a game sphere passes through this specific field 49. In addition, the adjustable winning-a-prize means 16 repeats switching action to the number of times of maximum

predetermined (for example, 16 times), when a predetermined time (for example, for 30 seconds) passes after opening, or on condition that the opening-and-closing board 48 is closed on condition that any when the game sphere of a predetermined number (for example, ten pieces) wins a prize, or formation of the earlier one, and a game sphere passes through the specific field 49.

[0026] Drawing 6 is a block diagram which illustrates a control system. In drawing 6, 50 is a game control board, and it is the game board 3. Main parts 1 of a game machine, such as a rear cover of a background The predetermined part of a background is equipped free [attachment and detachment]. 51 is a display-control substrate and the background of the 1st change pattern display means 12 etc. is the main part 1 of a game machine. The predetermined part of a background is equipped free [attachment and detachment]. In addition, the game control board 50 and the display-control substrate 51 are constituted by the separate substrate, and are contained by the same or separate substrate case.

[0027] In the game control board 50, it is mainly the game board 3. It is equipped with the game control means 52 which control near game operation. The game control means 52 are equipped with the 1st game lottery means 53, the 1st game judging means 54, the 1st profits state generating means 55, the 2nd game lottery means 56, the 2nd game judging means 57, the 2nd profits state generating means 58, and instruction information transmitting means 59 grade, and are constituted by CPU, ROM, RAM, etc.

[0028] The display-control substrate 51 is equipped with a 1st change display-control means 60 to mainly perform the display control by the side of the 1st change pattern display means 12, and a 2nd change display-control means 61 to perform the display control by the side of the 2nd change pattern display means 13. The 1st change display-control means 60 is equipped with the instruction information analysis means 62, the 1st pattern control means 63, and 2nd pattern control-means 64 grade, and is constituted by CPU, ROM, RAM, etc.

[0029] It is for the 2nd game lottery means 56 generating the random number for the 2nd game determination of a predetermined number one by one, such as generating the random number value of ten pieces to 0-9, when the probability of occurrence of for example, a predetermined mode is 1/10, and casting lots in which random number value of the random number for the 2nd game determination, on condition that a change demand of the 2nd change demand means 15. The 2nd game judging means 57 is for judging whether the 2nd game state is generated based on the lottery random number value of the 2nd game lottery means 56, and when the lottery random number value in the 2nd game lottery means 56 is the 2nd game decision value, it is judged to be the 2nd game.

[0030] The 2nd game judging means 57 judges the 2nd profits state generating means 58 to be the 2nd game, on condition that the pattern after change of the 2nd change pattern display means 13 is decided in a predetermined mode, it generates the 2nd profits state, and it is for making it open wide a predetermined time (for

example, 0.5-second about room) about the opening-and-closing presser foot stitch tongue 47 of the 1st change demand means 14.

[0031] It is for the 1st game lottery means 53 generating the random number for the 1st game determination of a predetermined number one by one, such as generating the random number value of 350 pieces to 0-349, when the probability of occurrence of for example, a specific mode is $1/350$, and casting lots in which random number value of the random number for the 1st game determination, on condition that a change demand of the 1st change demand means 14.

[0032] The 1st game judging means 54 is for judging whether the 1st game state is generated based on the lottery random number value of the 1st game lottery means 53, and when the lottery random number value in the 1st game lottery means 53 is the 1st game decision value (for example, random number value "7"), it is judged to be the 1st game.

[0033] The 1st profits state generating means 55 is for generating the 1st profits state advantageous to a game person, after there is the 1st game judging with the 1st game judging means 54 and the combination of the halt pattern of the 1st pattern 43, 44, and 45 on the winning-a-prize line 36 of the 1st change pattern display means 12 and the 2nd pattern 46 serves as a specific mode. This 1st profits state generating means 55 opens the opening-and-closing board 48 of the adjustable winning-a-prize means 16 wide. When a predetermined time (for example, for 30 seconds) passes after the opening, the opening-and-closing board 48 is closed by any when the game sphere of a predetermined number (for example, ten pieces) wins a prize, or formation of the earlier one. Switching action is made to continue to the number of times of maximum predetermined (for example, 16 times), on condition that a game sphere passes through the specific field 49.

[0034] Whenever the instruction information transmitting means 59 has a judgment result from the 1st game judging means 54 based on a change demand of the 1st change demand means 14, the judgment result of the 1st game or the 1st non-game, The predetermined instruction information about the change time of the 1st pattern 43, 44, and 45 by the side of the 1st change pattern display means 12 at that time and 2nd pattern 46 grade is transmitted to the 1st change display-control means 60 of the display-control substrate 51 by 1 direction communication. In addition, the turnover time of each rotating drums 19, 20, and 21 and the change display time of the liquid crystal display means 25 are sufficient as change time, and the time from the change start by the side of the 1st change pattern display means 12 to a halt is sufficient as it.

[0035] While the 2nd change display-control means 61 carries out predetermined-time change of the pattern of the 2nd change pattern display means 13 based on the judgment result of the 2nd game judging means 57 Change control of the 2nd change pattern display means 13 is carried out that the pattern should be stopped according to a judgment result so that may stop in a predetermined mode after changing in the 2nd game judging, and it may stop in a non-predetermined mode, respectively, after

changing in the 2nd non-game judging.

[0036] The 1st pattern control means 63 are for controlling change of the 1st pattern 43-45 by rotation of each rotating drums 19, 20, and 21, and halt, and a halt. According to the judgment result of the 1st game judging analyzed with the instruction information analysis means 62, and the 1st non-game judging, and the instruction information on change time, predetermined-time rotation of the rotating drums 19, 20, and 21 is carried out with drive motors 22, 23, and 24. Each rotating drums 19, 20, and 21 are stopped in predetermined sequence like the left, the right, and the middle class.

[0037] When the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st pattern control means 63 again Rotating drums 19 and 21 The 1st pattern 43 and 45 on the winning-a-prize line 36 It becomes a specific pattern. 20d of check-by-looking sections of a rotating drum 20 Each rotating drums 19, 20, and 21 are stopped so that it may correspond to the liquid crystal display means 25 on the winning-a-prize line 36. In the 1st non-game judging, they are rotating drums 19 and 21. The 1st pattern 43 and 45 on the winning-a-prize line 36 It becomes the pattern (a specific pattern, a homotypic, or a different-species pattern is included) in which it does not specify. 20d of check-by-looking sections of a rotating drum 20 Each rotating drums 19, 20, and 21 are stopped so that it may correspond to the liquid crystal display means 25 on the winning-a-prize line 36.

[0038] When the rotational speed of a rotating drum 20 falls to an identifiable speed by viewing, the 2nd pattern control means 64 the 1st pattern 44 Change of the 2nd pattern 46 is made to start synchronizing with the change display of the 1st pattern 44 etc. It is for indicating two or more kinds of 2nd pattern 46 by change according to predetermined array sequence by the same or change pattern predetermined to an opposite direction etc. as the hand of cut of a rotating drum 20, and indicating the 2nd predetermined pattern 46 for three coma by halt after a halt of a rotating drum 20, at least.

[0039] The 2nd pattern control means 64 are rotating drums 19 and 21, when the judgment result of the 1st game judging means 54 is the 1st game judging. The 1st pattern 43 and 45 on the winning-a-prize line 36 It becomes an of-the-same-kind pattern. In the 1st non-game judging, they are rotating drums 19 and 21. The 1st pattern 43 and 45 on the winning-a-prize line 36 The 2nd pattern 46 is stopped, respectively so that it may become a part, an of-the-same-kind pattern, or a different-species pattern. In addition, the 2nd pattern control means 64 may be made to indicate the 2nd pattern 46 of the liquid crystal display means 25 also during rotation of a rotating drum 20 by change.

[0040] A game is faced in the above-mentioned pinball machine, and it is the discharge means 8. Discharge handle 9 It is operated and is the discharge means 8. A guide rail 10 is met in a game sphere, and it is the game board 3 one by one. It is made to discharge to a side and goes. Then, the game board 3 The game sphere discharged at the upper part side is the game board 3. It falls below, usually winning

a prize of winning-a-prize means 17 grade, or passing the 2nd change demand means 15, while falling along the face of a board, after going into the game field 11.

[0041] If the 2nd change demand means 15 detects a game sphere, it will judge whether by the change demand, the 2nd game lottery means 56 casts lots in the generating random number value at the time, and the 2nd game judging means 57 changes into the 2nd game state from the lottery random number value, and the 2nd change display-control means 61 will fluctuate the pattern of the 2nd change pattern display means 13 by the judgment result.

[0042] And when the judgment result of the 2nd game judging means 57 is the 2nd game judging, the halt pattern after change of the 2nd change pattern display means 13 becomes predetermined modes, such as "7", the 2nd profits state by the 2nd profits state generating means 58 occurs, the opening-and-closing presser foot stitch tongue 47 of the 1st change demand means 14 carries out predetermined-time opening, and it becomes easy for a game sphere to win a prize to this 1st change demand means 14.

[0043] If the 1st change demand means 14 detects a game sphere, based on the change demand, the 1st game lottery means 53 will cast lots in a generating random number value, it will judge whether the 1st game judging means 54 generates the 1st game state from the lottery random number value, and the instruction information transmitting means 59 will transmit predetermined instruction information to the display-control substrate 51 according to the judgment result.

[0044] That is, the instruction information transmitting means 59 transmits the instruction information containing the 1st non-game judging and change time to the display-control substrate 51, respectively, when the judgment result of the 1st game judging means 54 is the 1st non-game judging about the instruction information which contains the 1st game judging and change time when the judgment result of the 1st game judging means 54 is the 1st game judging.

[0045] The instruction information analysis means 62 receives the instruction information from the instruction information transmitting means 59, in the display-control substrate 51, when the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st game judging and change time are analyzed from instruction information, and in the 1st non-game judging, the 1st non-game judging and change time are analyzed from instruction information, respectively.

[0046] And when the judgment result of the 1st game judging means 54 is the 1st game judging, the 1st pattern control means 63 rotate rotating drums 19, 20, and 21 in the predetermined direction with drive motors 22, 23, and 24 based on instruction information, and indicate the 1st pattern 43, 44, and 45 corresponding to the pattern viewing area 31 by change by rotation of these rotating drums 19, 20, and 21. And each rotating drums 19, 20, and 21 are rotating drums 19 and 21, after carrying out predetermined-time rotation. The 1st pattern 43 and 45 It becomes an of-the-same-kind pattern on which winning-a-prize line 36, and is 20d of check-by-looking sections of a rotating drum 20. It stops in order of the left, the right, and inside so

that it may correspond to the pattern viewing area 31.

[0047] On the other hand, when the rotational speed of a rotating drum 20 falls the 1st pattern 44 to an identifiable speed by viewing, the 2nd pattern control means 64 make change of the 2nd pattern 46 of the liquid crystal display means 25 start synchronizing with the change display of the 1st pattern 44. 20d of and check-by-looking sections If a rotating drum 20 stops so that it may correspond to the pattern viewing area 31, it will change from the change display of the 1st pattern 44 by rotation of a rotating drum 20 to the change display with the 2nd pattern 46 of the liquid crystal display means 25, and the 2nd pattern 46 will be changed with other animation proper display gestalten with a predetermined change pattern.

[0048] And rotating drums 19 and 21 The 1st pattern 43 and 45 corresponding to the central winning-a-prize line 36 When it both stops by "7" The inside of the 2nd pattern 46 for three coma by which it is indicated by halt for the liquid crystal display means 25 after progress of a predetermined time, It stops so that the 2nd pattern 46 corresponding to the central winning-a-prize line 36 may display "7", and it becomes the specific mode as which all the halt patterns on the central winning-a-prize line 36 display "7" of an of-the-same-kind pattern by this.

[0049] If the halt pattern after change of the 1st change pattern display means 12 serves as a specific mode, the 1st profits state generating means 55 works after that, the 1st profits state advantageous to a game person occurs, the adjustable winning-a-prize means 16 opens wide to an anterior, a game sphere becomes easy to win a prize, and a game person can enjoy great profits. In addition, the adjustable winning-a-prize means 16 will close the opening-and-closing board 48, if a predetermined time passes since opening of the opening-and-closing board 48 or the game sphere of a predetermined number wins a prize. Moreover, if a game sphere passes through the specific field 49 during opening of the adjustable winning-a-prize means 16, the adjustable winning-a-prize means 16 will open wide again, and will repeat the same switching action a maximum of 16 times hereafter.

[0050] Thus, by combining the change display of the 1st pattern 43, 44, and 45 by rotation of rotating drums 19, 20, and 21, and the change display of the 2nd pattern 46 by the liquid crystal display means 25, as compared with the change display only by the conventional rotating drums 19, 20, and 21, on the basis of mechanical composition, though, the uniform change display of a pattern can be prevented, and the production nature of a change display of a pattern can be raised.

[0051] And since it is made to display the 2nd pattern 46 of two or more coma in which the liquid crystal display means 25 makes it correspond to the pattern viewing area 31, and a halt display of the 2nd pattern 46 for two or more coma is possible for it, and it adjoins each other in the change direction by this liquid crystal display means 25 It is possible to fluctuate the 2nd pattern 46 in scrolling one by one etc. at within the limits for the two or more coma, and there is an advantage whose production nature of a change display of the 2nd pattern 46 by the liquid crystal display means 25 improves further as compared with the case where the 2nd pattern

46 for one coma is displayed.

[0052] If the liquid crystal display means 25 is established in two more rotating drums 20 and it is made to stop at the end any of the 2nd pattern 46 of this liquid crystal display means 25 they are after a halt of the rotating drum 20, the stage effects of reach production can be raised with the 2nd pattern 46 of the liquid crystal display means 25, and, moreover, the fine production display of the 2nd pattern 46 is also possible.

[0053] Drawing 8 illustrates the 2nd operation gestalt of this invention, and the liquid crystal display means 25 is arranged among three rotating drums 19, 20, and 21 with this operation gestalt inside the rotating drum 21 by the side of the end of a longitudinal direction. In the change direction, the liquid crystal display means 25 is constituted for a long time in the vertical direction so that the 2nd pattern 46 for three coma may be indicated by halt. moreover, drum section 21c of a rotating drum 21 **** — 21d of check-by-looking sections of the size which can check the 2nd pattern 46 for three coma by the side of the liquid crystal display means 25 by looking 21d of this check-by-looking section Covered section 21e of an except It is prepared. Other composition is the same as that of the 1st operation gestalt.

[0054] Thus, you may arrange the liquid crystal display means 25 in the rotating drum 21 by the side of an edge. Of course, you may establish the liquid crystal display means 25 in a rotating drum 19. Moreover, it is also possible to form the liquid crystal display means 25 in the interior of all the rotating drums 19, 20, and 21.

[0055] Drawing 9 illustrates the 3rd operation gestalt of this invention, and the liquid crystal display means 25 is arranged inside the central rotating drum 20 with this operation gestalt like the 1st operation gestalt among three rotating drums 19, 20, and 21. This liquid crystal display means 25 has the few number of coma from the number of coma which is the size which indicates the 2nd pattern 46 for two coma by halt, and is settled in the change direction after change at the pattern viewing area 31, and is biased and arranged at the vertical direction bottom of the pattern viewing area 31. Other composition is the same as that of the 1st operation gestalt.

[0056] Thus, when establishing the liquid crystal display means 25 which can halt display the 2nd pattern 46 of two or more coma, you may make the number of coma fewer than the number of coma in which the halt display to the pattern viewing area 31 is possible. However, it is necessary to make one side of the vertical direction bias the liquid crystal display means 25, and to arrange it, or to indicate the 2nd pattern 46 by halt according to the winning-a-prize line 36 so that the 2nd pattern 46 by which it is indicated by halt at the liquid crystal display means 25 may be located on the winning-a-prize line 36 in this case.

[0057] Other rotating drums 19 and 21 It is the same when forming the liquid crystal display means 25 with few coma in the interior. Moreover, when establishing the liquid crystal display means 25 with few coma in each rotating drums 19 and 20 and 21, they are the rotating drums 19 and 21 of ends. By all or a part of rotating drums 19, 20, and 21, such as arranging the liquid crystal display means 25 by the side of

the rotating drum 20 of middle [means / liquid crystal display / 25 / near / upper part / in the pattern viewing area 31] in the lower part in the pattern viewing area 31, respectively, the position of the liquid crystal display means 25 may arrange so that it may differ in the

[0058] Drawing 10 and drawing 11 are two rotating drums 20 and 21 which illustrate the 4th operation gestalt of this invention and adjoin each other among three rotating drums 19, 20, and 21 with this operation gestalt. Ranging over the interior, one liquid crystal display means 25 is arranged, and they are each rotating drums 20 and 21 by this liquid crystal display means 25. The 2nd pattern 46 of two coma of corresponding is indicated by change.

[0059] The liquid crystal display meanses 25 are each rotating drums 20 and 21 about the 2nd pattern 46 for one coma to the change direction. It can be made to be able to respond, and can display and they are rotating drums 20 and 21. The support plate 38 arranged in between is equipped free [attachment and detachment].

Moreover, in the both sides of a support plate 38, they are each rotating drums 20 and 21. Drive motors 23 and 24 of ** It is equipped. Each rotating drums 20 and 21 Check-by-looking sections 20d and 21d It is the size which can check the 2nd pattern 46 for one coma by looking. Other composition is the same as that of the 1st operation gestalt.

[0060] Thus, you may establish the liquid crystal display means 25 so that each rotating drums 19, 20, and 21 may be made to correspond and the 2nd pattern 46 of two or more coma may be displayed. In addition, although the liquid crystal display means 25 is made to bias to the lower part side of the pattern viewing area 31 with this operation gestalt, it is also possible to arrange in the center of the vertical direction, to make it bias to an upper part side, and to arrange.

[0061] Drawing 12 illustrates the 5th operation gestalt of this invention, and a liquid crystal display means 25 to indicate the 2nd pattern 46 for two or more coma by change is constituted from this operation gestalt by the hoop direction of rotating drums 19, 20, and 21 in the shape of incurvation for every coma in accordance with the peripheral surface of rotating drums 19, 20, and 21. When making the 2nd pattern 46 for two or more coma indicate in the vertical direction by change by the liquid crystal display means 25 into the pattern viewing area 31, you may constitute the liquid crystal display means 25 in the shape of incurvation in this way.

[0062] Drawing 13 illustrates the 6th operation gestalt of this invention, and a liquid crystal display means 25 to indicate the 2nd pattern 46 for two or more coma by change is circularly constituted from this operation gestalt by the hoop direction of rotating drums 19, 20, and 21 in accordance with the peripheral surface of rotating drums 19, 20, and 21. In the pattern viewing area 31, when making the 2nd pattern 46 for two or more coma indicate in the vertical direction by change by the liquid crystal display means 25, in this way, the liquid crystal display means 25 may be incurvated circularly, and may be established.

[0063] Drawing 14 illustrates the 7th operation gestalt of this invention, with this

operation gestalt, two or more liquid crystal display meanses 25 are formed in the interior of rotating drums 19, 20, and 21 for every coma of the hoop direction, and each of that liquid crystal display means 25 is arranged stair-like along with the inner skin of rotating drums 19, 20, and 21 at the cross direction. Thus, when displaying the 2nd pattern 46 for two or more coma on the hoop direction of rotating drums 19, 20, and 21 by the liquid crystal display means 25, the liquid crystal display means 25 of each coma unit may be arranged stair-like, and you may constitute so that it may make it display that the 2nd pattern 46 changes continuously ranging over each of that liquid crystal display means 25.

[0064] As mentioned above, although each operation gestalt of this invention was explained in full detail, this invention is not limited to each operation gestalt. For example, one piece, two pieces, or ***** [the number of rotating drums 19 20, and 21 / four] or more although the 1st change pattern display means 12 equipped with three rotating drums 19, 20, and 21 is illustrated with the operation gestalt.

Moreover, when using two or more rotating drums 19, 20, and 21, each of those rotating drums 19, 20, and 21 establish the driving shafts 40, 41, and 42 of drive motors 22, 23, and 24, and other one shaft which it supports separately more and also is penetrated to two or more rotating drums 19, 20, and 21, and you may make it support each rotating drums 19, 20, and 21 with the shaft. You may use things other than drive motors 22 and 23 and 24 for driving means. Moreover, two or more rotating drums 19, 20, and 21 mind a clutch etc. by one driving means, and it drives separately and they may enable it to suspend it separately.

[0065] Although the rotating drums 19, 20, and 21 of instantiation are the most suitable for an operation gestalt, rotating drums 19 and 20 and things other than 21, for example, a predetermined configuration, and the rotation reel of structure may be used for a time fuselage, and other rotation belts are used for it, and ranging over two or more guide rollers etc., you may wind the rotation belt around it almost so that it may correspond to the pattern viewing area 31.

[0066] The drum sections 19c, 20c, and 21c of the shape of a cylinder of rotating drums 19, 20, and 21, and rotating drums 20 and 21 by which the liquid crystal display means 25 has especially been arranged inside Drum sections 20c and 21c You may constitute the whole in the shape of transparence possible [a check by looking]. In this case, the check-by-looking sections 20d and 21d Even if the position of an except corresponds to the liquid crystal display means 25, they are rotating drums 20 and 21. The 1st near pattern 44 and 45 It is possible to direct a background by the display of the liquid crystal display means 25.

[0067] It is not necessary to necessarily arrange in the center of abbreviation of the vertical direction of the pattern viewing area 31, and that what is necessary is to make it correspond to the pattern viewing area 31, and just to arrange, like instantiation in an operation gestalt, a top or the bottom is made to bias and the liquid crystal display means 25 can also be arranged, when the pattern of two or more coma can be displayed on the pattern viewing area 31 in the vertical direction.

Therefore, it is made to correspond to positions other than winning-a-prize line 36, and the liquid crystal display means 25 can also be arranged. However, in order to aim at improvement in the stage effects by the liquid crystal display means 25, it is desirable to arrange the liquid crystal display means 25 so that it may be located on the winning-a-prize line 36.

[0068] When the liquid crystal display means 25 has been arranged in positions other than winning-a-prize line 36, a specific mode will be displayed in the combination of rotating drums 19 and 20 and the halt pattern of the 1st pattern 43, 44, and 45 by the side of 21. Moreover, when displaying two or more patterns of all on the winning-a-prize line 36 by the liquid crystal display means 25, it is also possible to display a specific mode only in the combination of the 2nd pattern 46 after a change halt.

[0069] In control of rotating drums 19, 20, and 21 and the liquid crystal display means 25, if it is the case of the 1st operation gestalt, for example, it is 20d of check-by-looking sections. It is in the state where the rotating drum 20 was stopped so that it may correspond to the liquid crystal display means 25, and the liquid crystal display means 25 performs the change display of the 2nd pattern 46, rotating drums 19, 20, and 21 are rotated after that, and you may make it make it stop. In this case, when stopping a rotating drum 20 finally, it is not necessarily 20d of check-by-looking sections. It is not necessary to make it stop so that it may correspond to the liquid crystal display means 25. Five winning-a-prize lines 36 which judge whether it is a specific mode are set up like an operation gestalt, and also lateral three are sufficient as them and 1 or 2 are sufficient as them.

[0070] The 1st pattern control means 63 are the check-by-looking sections 20d and 21d. The state corresponding to the liquid crystal display means 25, and rotating drums 20 and 21 The covered sections 20e and 21e It chooses any in the state of covering the anterior of the liquid crystal display means 25 they are, and constitutes possible [halt control], the need is accepted by formation of a game judging result and other predetermined conditions, and they are rotating drums 20 and 21 at the any. You may make it make it stop.

[0071] In this case, the check-by-looking sections 20d and 21d By making it correspond to the liquid crystal display means 25, the 2nd pattern 46 can be used for the display of a specific mode and a non-specifying mode, and they are the covered sections 20e and 21e. By making it correspond to the liquid crystal display means 25, only the 1st pattern 43, 44, and 45 of rotating drums 19, 20, and 21 can be used for the display of a specific mode and a non-specifying mode. However, the check-by-looking sections 20d and 21d They are rotating drums 20 and 21 so that it may not be located in the pattern viewing area 31. It is necessary to make it stop. moreover, rotating drums 20 and 21 The covered sections 20e and 21e the inside of the 2nd pattern 46 for two or more coma of the liquid crystal display means 25 — the — you may make it stop so that the 2nd pattern 46 of a coma may be covered in part

[0072] Although it is possible to use various kinds of things, such as a dot formula

display means and 7 segment formula display meanses, for a display means in addition to liquid crystal display means 25, it is desirable to adopt the display means which can control the 2nd pattern 46 electrically. Moreover, in an operation gestalt, although illustrated about the 1st change pattern display means 12, it can carry out similarly with the 2nd change pattern display means 13. Of course, it can carry out also with a game machine without the 2nd change pattern display means 13.

[0073] Moreover, in various kinds of game machines, such as pinball machines, such as arrangement ball machines other than a pachinko machine, and a mahjong ball game machine, or a slot machine, it can carry out similarly. What is necessary is just to constitute rotation of each rotating drums 19, 20, and 21, change of the 2nd pattern 46 of a display means, etc. so that it may stop suitably according to a game person's deactivate request in adopting it as a slot machine.

[0074] For one coma, it constitutes so that two or more 2nd patterns 46 may be indicated by halt, and you may make it two or more kinds of value arise with two or more of the 2nd patterns 46 for a display means. Moreover, it is made to rotate to the circumference of a horizontal axis, and also you may make it rotate each rotating drums 19-21 to the circumference of a vertical axis, or the circumference of a slanting shaft.

[0075]

[Effect of the Invention] According to this invention, the time fuselages [the pattern viewing area 31] 19, 20, and 21 which display [change and / halt] the 1st pattern 43, 44, and 45 of two or more coma that two or more kinds of 1st pattern 43, 44, and 45 required for a game is expressed [and], The driving means 22, 23, and 24 which drive these time fuselages 19, 20, and 21, Since it has been arranged inside the time fuselages 19, 20, and 21, and it was made to correspond to the pattern viewing area 31 and it has the display means 25 which can change display the 2nd pattern 46 for two or more coma On the basis of mechanical composition, while, the uniform change display of a pattern can be prevented and the production nature of a change display of a pattern can be raised.

[0076] Moreover, since it has the 2nd pattern control means 64 which fluctuate the 2nd pattern 46, and a predetermined pattern is chosen [control means] from two or more kinds of 2nd patterns 46, and indicate by halt, production nature can be raised by the change display of the 2nd pattern 46.

[0077] Furthermore, since a part of 2nd pattern [at least] 46 is value equivalent to the 1st pattern 43, 44, and 45, it can consider this 2nd pattern 46, can generate a profits state, and can raise a game person's interest further.

[0078] moreover, time fuselages 20 and 21 by which the display means 25 has been arranged inside The check-by-looking sections 20d and 21d which can check the display means 25 side by looking It has and they are the check-by-looking sections 20d and 21d after rotation. So that it may stop corresponding to the display means 25 Time fuselages 20 and 21 It is made to rotate and is the 1st pattern 44 and 45. Since it has the 1st pattern control means 63 to fluctuate, where the time fuselages

19, 20, and 21 are stopped, it can direct with the 2nd pattern 46 of the display means 25.

[0079] furthermore, time fuselages 20 and 21 by which the display means 25 has been arranged inside The check-by-looking sections 20d and 21d which can check the display means 25 side by looking The covered sections 20e and 21e which cannot be checked by looking It prepares for a hoop direction. They are the check-by-looking sections 20d and 21d after rotation. The covered sections 20e and 21e So that it may stop alternatively corresponding to the display means 25 Time fuselages 20 and 21 It is made to rotate and is the 1st pattern 44 and 45. Since it has the 1st pattern control means 63 to fluctuate, production with the 2nd pattern 46 of the display means 25 and the production which does not use the 2nd pattern 46 can be chosen if needed.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view of the pinball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 2] It is the front view of the 1st change pattern display means which shows the 1st operation gestalt of this invention.

[Drawing 3] It is the side cross section of the 1st change pattern display means which shows the 1st operation gestalt of this invention.

[Drawing 4] It is the transverse-plane cross section of the 1st change pattern display means which shows the 1st operation gestalt of this invention.

[Drawing 5] It is the flat-surface cross section of the 1st change pattern display means which shows the 1st operation gestalt of this invention.

[Drawing 6] It is the block diagram of a control system showing the 1st operation gestalt of this invention.

[Drawing 7] It is explanatory drawing of the 1st pattern and the 2nd pattern which

show the 1st operation gestalt of this invention.

[Drawing 8] It is the transverse-plane cross section of the 1st change pattern display means which shows the 2nd operation gestalt of this invention.

[Drawing 9] It is the transverse-plane cross section of the 1st change pattern display means which shows the 3rd operation gestalt of this invention.

[Drawing 10] It is the transverse-plane cross section of the 1st change pattern display means which shows the 4th operation gestalt of this invention.

[Drawing 11] It is the transverse-plane cross section of the 1st change pattern display means which shows the 4th operation gestalt of this invention.

[Drawing 12] It is the side cross section of the 1st change pattern display means which shows the 5th operation gestalt of this invention.

[Drawing 13] It is the side cross section of the 1st change pattern display means which shows the 6th operation gestalt of this invention.

[Drawing 14] It is the side cross section of the 1st change pattern display means which shows the 7th operation gestalt of this invention.

[Description of Notations]

19-20 Rotating drum (time fuselage)

20d, 21d Check-by-looking section

20e, 21e The covered section

22-24 Drive motor (driving means)

25 Liquid Crystal Display Means

31 Pattern Viewing Area

43-45 The 1st pattern

46 2nd Pattern

55 1st Profits State Generating Means

63 1st Pattern Control Means

64 2nd Pattern Control Means

[Translation done.]

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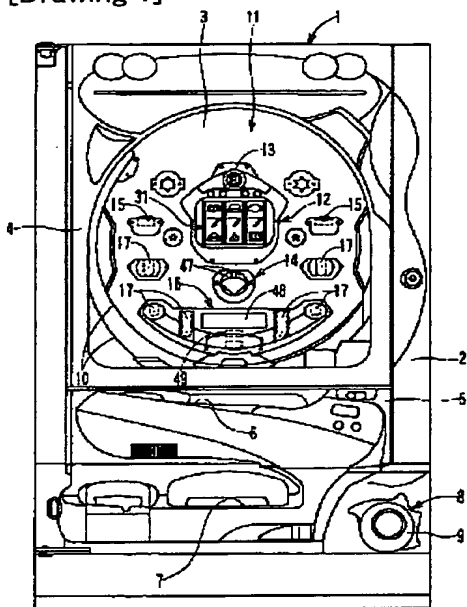
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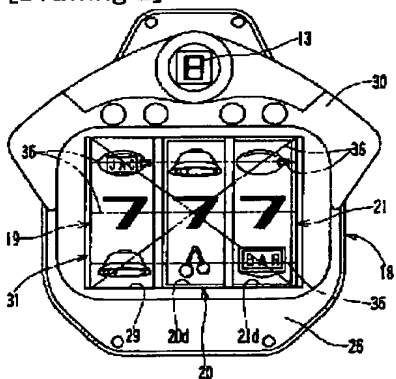
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DRAWINGS

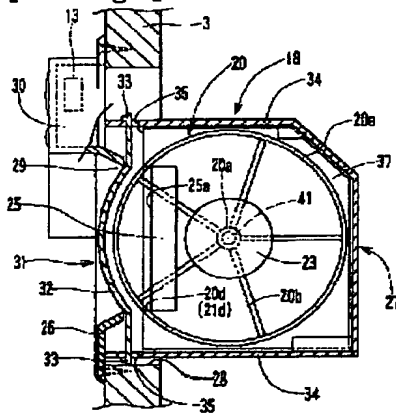
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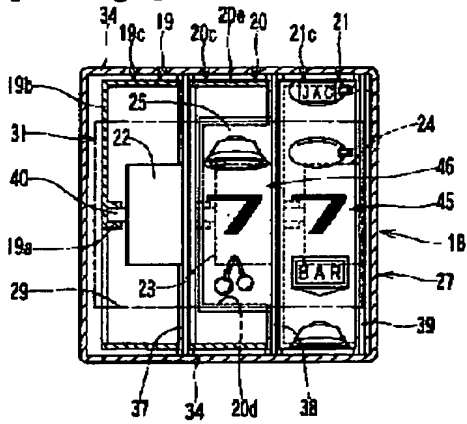
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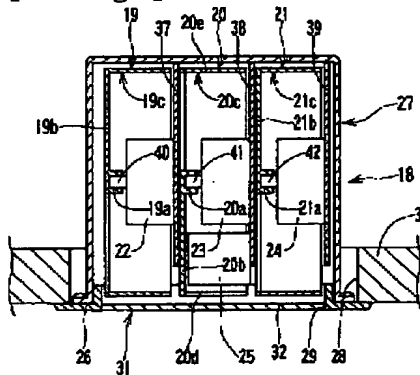
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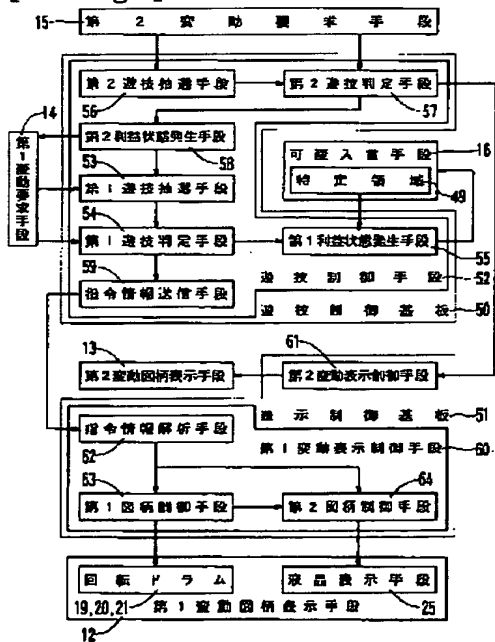
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[Drawing 5]



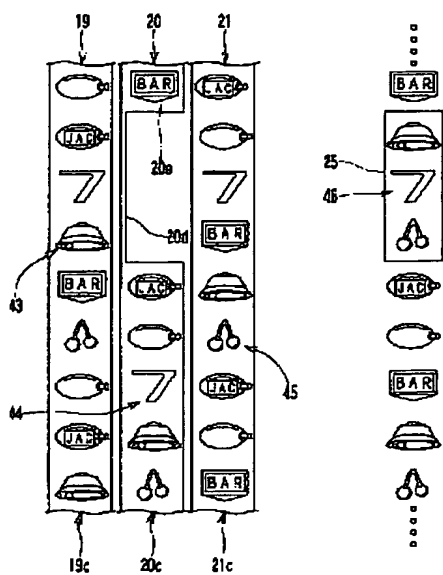
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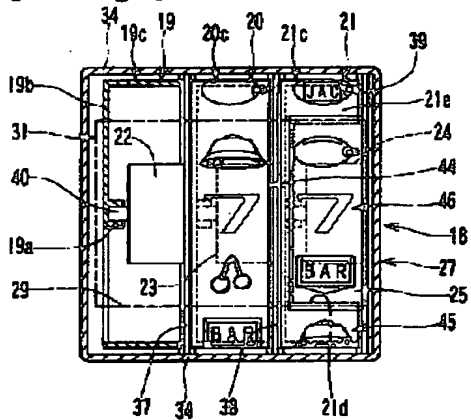
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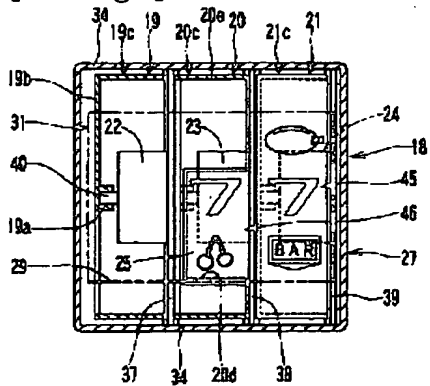
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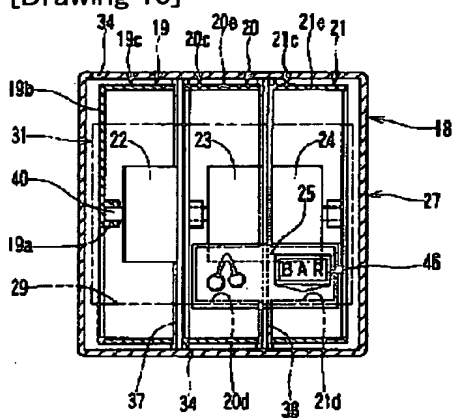
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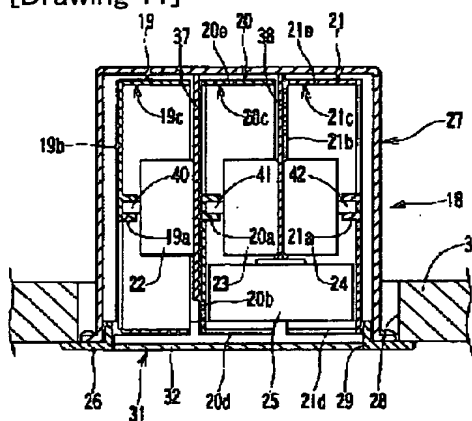
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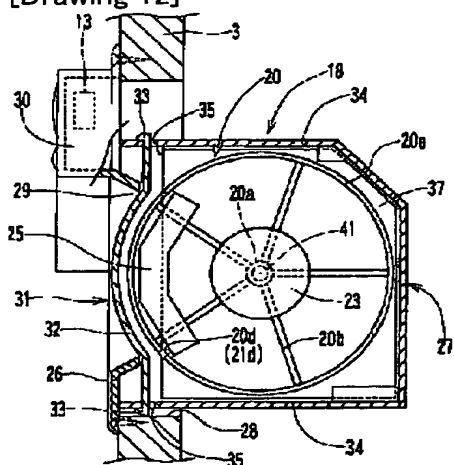
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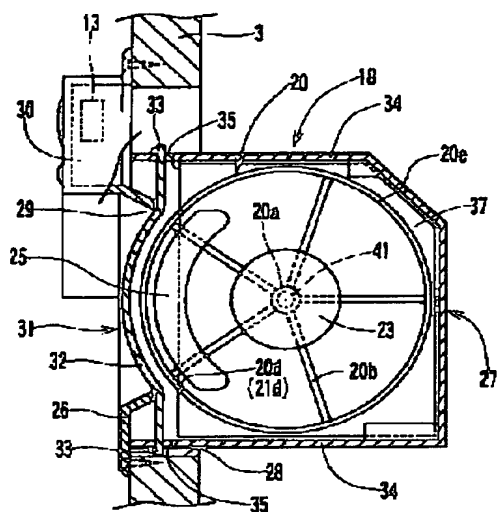
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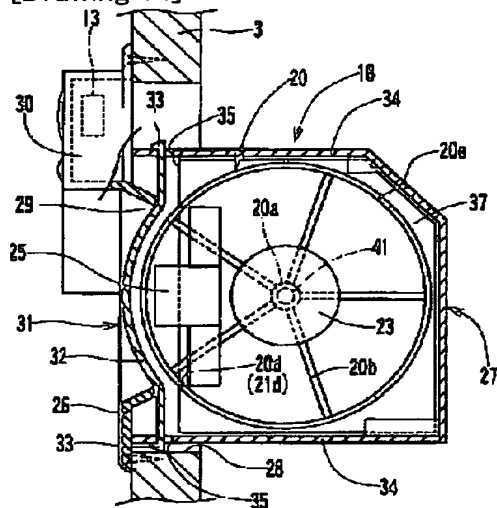
[Drawing 12]



[Drawing 13]



[Drawing 14]



[Translation done.]